Remarks

Reconsideration of this Application is respectfully requested.

Upon entry of the foregoing amendment, claims 1-3, 5 and 6 are pending in the application, with claim 1 being the independent claim. Claim 1 is sought to be amended to more clearly point out the subject matter recited therein. These changes are believed to introduce no new matter, and their entry is respectfully requested.

Based on the above amendment and the following remarks, Applicants respectfully request that the Examiner reconsider all outstanding objections and rejections and that they be withdrawn.

Rejections under 35 U.S.C. § 103

The Examiner has maintained his rejection of claims 1 and 6 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent no. 6,546,017 ("Khaunte") in view of U.S. Patent No. 6,580,721 to Beshai ("Beshai"). For the reasons set forth below, Applicants respectfully traverse.

Claim 1 is directed to a method for timing the transmission of unsolicited grants (USGs) of bandwidth to transmit voice packets on a shared transmission medium. The method of claim 1 includes the steps of:

> initializing a control terminal to receive packets of voice calls having parameters including a bit rate, a packetization interval, and a call identification;

> creating a plurality of queues corresponding to a plurality of phases defined at a sub-multiple of the packetization interval;

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admitting voice calls to the control terminal;

distributing the voice calls among the queues in a predetermined order as the voice calls are admitted;

removing the voice calls from the queues as the voice calls are terminated; and

periodically issuing at the phases corresponding to the queues USGs that include a call identification and a grant of bandwidth sufficient to transmit the packets.

At the outset, Applicants note that neither Khaunte nor Beshai teach or suggest the transmission of <u>unsolicited grants</u> of bandwidth on shared communication medium, and for this reason alone the Examiner's rejection should be withdrawn. The Examiner states that the transmission of unsolicited grants is taught by FIG. 3A of Khuante in which "the bandwidth request is seen as the horizontal parts as 305 and the associated grant (equivalent to the USG) is seen as the empty space as in 303". *See* Office Action at p. 3. However, this is incorrect. As explained in Khaunte, the data grant 303 shown in FIG. 3A is issued only in response to a request for bandwidth to a cable modem termination system (CMTS). *See* Khaunte, col. 13, ll. 10-16. Thus, the data grant 303 is <u>solicited</u>, not unsolicited as required by claim 1. As described with reference to an example embodiment in the specification of the present application:

> As represented by FIG. 2B, in a voice service the call is first set up by the CM, the call is then admitted by the CMTS, and ***unsolicited grants (USGs) are sent downstream at regular intervals from the CMTS to the CM without individual requests***. Each time a USG is sent downstream, while a call is active, a voice packet is transmitted upstream in the granted bandwidth.

See Specification at p. 5, ll. 6-10 (emphasis added).

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In addition to not teaching or suggesting the issuing of unsolicited grants, neither Khaunte nor Beshai teaches or suggets "periodically issuing" unsolicited grants "at the phases associated with the queues" wherein the phases are "defined at a sub-multiple of the packetization interval" as recited by claim 1. As noted above, Khaunte provides no teaching or suggestion regarding issuing unsolicited grants, let alone the timing associated with issuing such grants. Beshai also provides no teaching or suggestion in this regard. Beshai has been cited by the Examiner as teaching a "packetization interval", because it shows a packet format in FIG. 3A that includes a "packet length" field. Even if the "packet length" field taught by Beshai is the same thing as a "packetization interval" as recited in claim 1, Beshai nowhere teaches or suggests dividing a "packet length" into sub-multiples or issuing unsolicited grants at the sub-multiples of the packet length.

The Examiner's response to Applicants' previous arguments essentially state that because Khaunte teaches a plurality of queues for handling different priority traffic, Khaunte teaches "creating a plurality of queues corresponding to a plurality of phases defined at a sub-multiple of the packetization interval". *See* Office Action at pp. 5-6. However, since Khaunte does not teach or suggest dividing a packetization interval into sub-multiples, it simply cannot teach or suggest "creating a plurality of queues *corresponding to a plurality of phases defined at a sub-multiple of the packetization interval*" as asserted by the Examiner.

By organizing the queues in this manner, an embodiment of the present invention can reduce the jitter associated with voice calls. As set forth in the specification, absent this arrangement, the maximum jitter will be equal to the packetization interval. *See* Atty. Docket: 1875.0470001

Specification at p. 6, ll. 11-27 and FIGS. 4(a) and 4(b). However, by "creating a plurality of queues corresponding to a plurality of phases defined at a sub-multiple of the packetization interval" and "distributing the voice calls" among them, the maximum voice jitter can be reduced:

> This voice jitter effect can be reduced by subdividing the upstream frames into a number of smaller phases and employing a separate queue for each phase. The jitter value can [then] be bounded by selection of the phase size.

See Specification at p. 6, ll. 28-30.

For all of the foregoing reasons, the combination of Khaunte and Beshai fail to support a prima facie obviousness rejection of independent claim 1. Accordingly, the Examiner's rejection of claim 1 under 35 U.S.C. § 103(a) is traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn. Additionally, dependent claim 6 is also not rendered obvious by this combination for at least the same reasons as independent claim 1 from which it depends and further in view of its own features. Accordingly, the Examiner's rejection of claim 6 under 35 U.S.C. § 103(a) is likewise traversed and Applicants respectfully request that the rejection be reconsidered and withdrawn.

Claim Objections

The Examiner has maintained his objection of each of claims 2, 3 and 5 as being dependent upon rejected claim 1. As set forth above, Applicants have traversed the

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rejection of claim 1. Accordingly, Applicants respectfully request that the objection to claims 2, 3 and 5 be reconsidered and withdrawn.
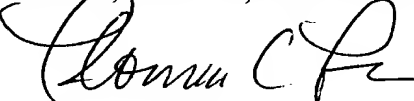
Conclusion

All of the stated grounds of objection and rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider all presently outstanding objections and rejections and that they be withdrawn. Applicants believe that a full and complete reply has been made to the outstanding Office Action and, as such, the present application is in condition for allowance. If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Prompt and favorable consideration of this Amendment and Reply is respectfully requested.

Respectfully submitted,

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